

Lincoln University Wetland Restoration Project

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Water Protection Forum
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Project Background

- Restore a 12-acre wetland adjacent to the Moreau River on LU's George Washington Carver Farm.
- Federal Funding provided by the FY12 EPA Section 319 Nonpoint Source Implementation Grant
- Project Period: July 15, 2015 December 31, 2016



Objectives

- Demonstrate methods of improving water quality and preventing soil erosion
- Educate the public on wetlands
 - Groundwater recharge
 - Flood Control
 - Phytoremediation
 - Wildlife/fish habitat
- Provide opportunity for classroom and laboratory instruction
- Conduct research on the colonization and establishment patterns and chronologies of plants and wildlife



Objectives

- Restore a disappearing habitat critical to migratory and resident populations of wildlife
- Recycle groundwater used in aquaculture production and research facility
- Demonstrate alternative uses for marginally productive farm land
- Provide a model to other public entities to augment their environmental impact



Methods Employed

- Reservoir Construction and Wetland Restoration
- Native Plant Establishment
- Tours
 - Student
 - Political
 - Farmer/Producer
- Pre and post bird species cataloging
- Pre and post plant inventory



Budget

319 Federal	Nonfederal Match	Other Federal
\$36,793	\$11,390	\$2,893

Total Project Cost: \$51,076

Project Partners

- Lincoln University
- USDA-NRCS
- Missouri Department of Conservation
- Three Rivers Electric Cooperative
- Ducks Unlimited
- Hamilton Native Outpost
- MDNR Water Resources Center
- LU Agriculture and Wildlife Clubs







Lincoln University / Carver Farms Wetland Restoration T44N, R11W, Sect. 28 Cole Co., MO







Legend

- ---- Lincoln_Carver_Wetland_Reservoir
- ---- Lincoln_Carver_Wetland





Pre-Construction





West View East View



Construction



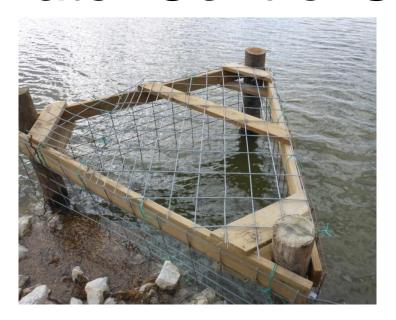








Water Control Structure











December Flooding









Wetland Planting

- March 29, 2016
- Lincoln University Students from the Department of Agriculture and the Wildlife Club
- Planted 300 obligate wetland plants







Wetland Plants

- Shining Blue Star
- Marsh/Swamp Milkweed
- New England Aster
- Globe Sedge
- Buttonbush
- Silky Dogwood
- Horsetail
- Joe Pye Weed
- Sneezeweed
- Rose Mallow
- Southern Blue Flag
- Soft Rush

- Cardinal Flower
- Spatterdock
- Switch Grass
- Pickerel Weed
- Orange Coneflower
- Sweet Coneflower
- Arrowhead/Duck Potato
- Lizards Tail
- Great Bul Rush
- Prairie Cord Grass
- Curlytop Ironweed



Wetland Planting







Wetland Planting









Monitoring Station





Parameters Monitored

- Groundwater Level
- Precipitation
- Air Temperature
- Relative Humidity
- Barometric Pressure
- Wind Speed/Direction
- Solar Radiation



Current Conditions











Current Conditions







Special thanks to John Horton MDNR Water Resources Center and Jeremia Markway Lincoln University Carver Farm Manager

